

## Background Facts on Wastewater Management

### Facts about Wastewater Systems in RI

A majority of the sanitary wastewater generated in RI is disposed of via public sewer systems. About 140 million gallons per day is generated; 75% of which is discharged directly into estuarine waters. Four rivers also receive discharges from major wastewater treatment facilities (WWTFs): Blackstone, Pawtuxet, Woonasquatucket and Clear.

NBC's Field's Point WWTF, the state's largest with a design flow (monthly dry-weather average) of 65 million gallons per day (MGD), currently discharges an average of about 46 MGD.

Number of Major WWTFs (public): 19

15 of 19 Major WWTFs have finalized facility plans; 3 more are in active development

Number of Other Major RIPDES dischargers: 4 (Blount Fine Foods, Kenyon Industries, ExxonMobil and Manchester Street Power Plant.)

Number of minor RIPDES wastewater dischargers: 77

All of the major dischargers and most of the minor dischargers are issued water quality based permits. 13 of 19 major dischargers have effluent limits related to nutrients including nitrogen, ammonia, or phosphorus that require more advanced treatment. Effluent monitoring data is reported monthly to DEM and is shared with EPA.

Percent of RIPDES wastewater permits expired (tracked as the permit backlog) = 16%; target for September 2014 is 10%.

Since 1979, per state law, RI has required that wastewater operators be certified. The program provides for four levels of certification.

WWTFs operate 13 septage receiving facilities receiving over 40 million gallons per year primarily from licensed haulers. In 2012, 45,278,157 gallons of septage were received with the most going to Cranston (21,718,700) and NBC (7,037,522).

Sludge generated at major WWTFs is disposed of at four locations: Central Landfill, 2 on-site incinerators and one on-site composting site. 16 of 19 WWTFs dispose of sludge off-site.

In recent years, performance of WWTFs has been generally very good. 1-2 instances of significant non-compliance may occur each quarter (3 month period).

### Strategies to Abate Pollution from WWTFs

State law established a goal of reducing the nitrogen pollutant loadings to upper Narragansett Bay from 11 RI WWTFs by 50% over seasonal 1995-96 averages. Upgrades at most of the WWTFs targeted by the law have been completed; all planned upgrades expected to be completed by 2017. DEM is tracking the resulting reductions in pollutant loadings as well as continuing to measure dissolved oxygen levels in Narragansett Bay.

Combined sewer overflows occur within both the NBC and Newport wastewater service districts. NBC has a three-phased plan to abate the over 80 CSO outfalls that known to discharge into the Providence River or its tributaries prior to 2008. Some outfalls have since been closed (plugged). The Phase 1 CSO storage tunnel and associated infrastructure, completed in 2008 at a cost of \$359 million, has allowed over 5.2 billion gallons of combined wastewaters to be captured and treated. As a result, DEM has been able to raise the rainfall amount that triggers the closure of shellfishing in the upper bay region and thereby allow for open more days of shellfishing. NBC's Phase 2 of CSO abatement, estimated at \$363 million, is under construction. Further evaluation is planned as part of Phase 3. Newport, which has some existing infrastructure to treat combined flows, is also engaged in developing a long-term CSO abatement plan.

12 wastewater systems are involved in an recent EPA enforcement initiative aimed at reducing sewer system overflows (SSOs) that occur when lines break, etc.

15 of 19 Major WWTFs implement approved industrial pretreatment programs with state oversight. As a result of implementation of industrial pretreatment, Narragansett Bay Commission has documented a 97% reduction in total metal loadings discharged 1981 through 2002 and thereafter.

Investments in wastewater infrastructure:

Construction grants program (mid 1970s – 1998) = \$284.2 million from EPA & \$64.6 million in matching funds from state bonds; also matched by local contributions

Clean Water Finance Agency Programs (Data from 2013 Annual Report)

Clean Water State Revolving Fund (CWSRF) 1990- present - \$1.017 billion in below market rate loans for all projects – primarily wastewater related (federal)  
Community Septic System Loan Program (CSSLP) (federal)-\$10,000,000  
RI WPC Revolving Loan Fund- \$57,920,000 (State match to federal funds)  
Sewer Tie-In Loan Program - \$600,000 (non-federal)  
Facility Plan Loan Program - \$325,000 (non-federal)  
Other agency funds – loans for wastewater projects - \$5,998,005 (non-federal)

DEM estimates \$275 million has been invested in wastewater improvements directly related to controlling nutrient pollutant loadings from WWTFs

2012 Clean Water Survey Capital Needs Related to Wastewater = \$1.858 billion  
(capital needs pertaining to wastewater infrastructure)

2013 Capitalization Grant from EPA to CWFA SRF = about \$10 million